Walnut Twig Beetle Survey: Vector of Thousand Cankers of Walnut
Work Plan – Calendar Year 2010

Cooperator:	Kansas Department of Agriculture			
State:	Kansas			
Project:	Walnut Twig Beetle Survey: Vector of Thousand Cankers Disease of Walnut			
Project funding source:	Priority Survey ☐ State Discretionary Survey ☐ Other Line Item Pest ☐ Farm Bill 10201 ☒			
Project Coordinator:	Laurinda Ramonda			
Agreement Number	Farm Bill 10201			
Contact Information:	**Address:**	PO Box 19282, Forbes Field, Bldg 282, Topeka, Kansas 66619		
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This Work Plan reflects a cooperative relationship between the Kansas Department of Agriculture (KDA) and the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ). It outlines the mission-related goals, objectives, and anticipated accomplishments as well as the approach for conducting a Thousand Cankers of Walnut survey and the related roles and responsibilities of the Kansas Department of Agriculture and USDA-APHIS-PPQ as negotiated.

I) OBJECTIVES AND NEED FOR ASSISTANCE

The walnut twig beetle, *Pityophthorus juglandis*, (pest of state concern) and thousand cankers disease of walnuts has been detected in several states in the western United States and as close as eastern Colorado, but is not known to occur in Kansas. Early detection and containment of this pest is of great importance since it can cause the demise of walnut trees which are of great economic value.

According to the Bob Atchison at the Kansas Forest Service (KFS), these are the estimates for Kansas, but KFS is currently working with economists to estimate the potential losses based on the values for the forest industry and the values associated with community forests and ecosystem services.

- There are estimated to be 23,500,619 black walnut in the rural landscape and a similar number in our community forests
- There are 169 million cubic feet of black walnut in Kansas (live trees), 110 million cubic feet are considered “growing stock”

- Black walnut ranks within the top 5 species for industrial round wood production at an estimated 2,984 million board feet annually
- Walnut value varies from $0.35/board foot to $4.00/board foot. Estimates may suggest a current average at $0.60/board foot implicating a $1.7 million dollar loss annually associated with saw logs. These figures do not include the higher valued veneer, nuts, and ecosystem service values associated with the species.

The need to identify the status of this pest is great. Kansas needs financial assistance in order to carry out a comprehensive survey to protect Kansas' walnut industry.

II) RESULTS OR BENEFITS EXPECTED

The Cooperator seeks to conduct a program which is expected to result in:

A. What results or benefits will be derived from the cooperative effort?

1. Geographic assessment will occur from data gathered on locations of sawmills, types of wood processed and black walnut populations near these locations.
2. Identification of pathways so action can be taken to stop further spread of pests.
3. Support domestic and foreign exports of walnut trees and wood from Kansas.
4. Survey and identification of the Walnut Twig Beetle, vector of the *Geosmithia* fungus that causes thousand cankers disease of walnut, if present.

III) APPROACH

What is the plan of action or approach to the work?

The survey will entail trapping using canopy traps focusing on areas around saw mills that process walnut. Approximately 10-15 canopy traps with an alcohol cup will be placed beginning in April through August and checked every 7-10 days. Traps may be moved around to 20-30 locations during the survey period.

Visual surveys of walnut trees near aggregations points (saw mills) will be conducted beginning in July through October. Samples will be taken from walnut trees, if there are signs of the disease. A knife will be used to shave bark to look for cankers and pruners will be used to take samples.

Glenn Salsbury, state entomologist, will screen targets and then send targets to a qualified identifier, Dr. Don Bright at Colorado State University. If cankers are found on walnut trees then these samples will be sent to the GPDN for identification. These samples will be double bagged and brought to the lab.

(In 2003 a bark beetle survey was done using canopy traps in Kansas. The canopy traps were found to be superior over Lindgren traps because nearly all the bark beetles collected were from canopy traps. Of the species collected, three were from the same genus, *Pityophthorus*. This is why we have opted to use canopy traps over Lindgren traps for our survey.)

A. The Cooperator and APHIS Mutually Agree to/that:

- Utilize Cooperator and APHIS program funding, as outlined in the Financial Plan, within the authorized parameters to support survey, detection and objectives.

1. What is the quantitative projection of accomplishments to be achieved?

a. By activity or function, what are the anticipated accomplishments by month, quarter, or other specified intervals?

- Canopy trap surveys will occur April through August.
- If the walnut twig beetle is identified, visual surveys will occur from July through October looking for flagged limbs and entry/exit holes, then samples will be taken from walnut trees in the area.
- Fact sheets, webpage, resources, and pest reporting will be continually updated as new information becomes available.
- Data will be entered into the NAPIS database when pest identification is confirmed and/or becomes available.
- GPS coordinates will be included with surveys.
- Geographic assessment will occur from data gathered on locations of sawmills, types of wood processed and black walnut populations near these locations.
- Survey and identification of the Walnut Twig Beetle, vector of the *Geosmithia* fungus, if present.
- Survey and identification of the *Geosmithia* fungus, if present, if the walnut twig beetle is found.

b. What criteria will be used to evaluate the project? What are the anticipated results and successes?

- Pest detection survey activities completed.
- All data collected from the pest detection survey is entered into the NAPIS database.
- SPHD, SPRO, PSS, SSC meetings to keep updated on issues, if needed.
- Presence or absence of Walnut Twig Beetle.
- Presence or absence of the *Geosmithia* fungus, if the walnut twig beetle is found.
- Increase collaboration potential with other agencies or university.
- Better knowledge for the walnut and wood industry.
- Better knowledge of the locations of sawmills, types of wood processed and black walnut populations near these sites.
- Better knowledge of high risk sites.

c. Methodology used to determine if identified needs are met and results and benefits achieved:

1. Review of the NAPIS database to ensure that data from the pest detection activities have been entered.

2. Review of the accomplishment reports, supporting outreach materials (if applicable), and maps.
3. SPHD, SPRO, PSS, SSC meetings to keep updated on issues.

2. What type of data will be collected and how will it be maintained?

a. All survey data from cooperative agreements involving pest surveys will be entered by the State Survey Coordinator or KDA staff into the NAPIS database to include but not limited to observation number, observation date, data source, state/county, site code, pest code, pest status, and survey method.

b. Complete, accurate, and timely pest survey data will be entered into NAPIS using approved protocol. The data entry requirements are:

- Enter new national, state, and county records into NAPIS database within 48 hours of confirmation of a pest or pathogen identification by a recognized identifier.
- Non-time sensitive records, including negative data, must by entered into NAPIS within 2 weeks of confirmation.
- Negative data should be entered within 2 weeks of decommissioning a trap, obtaining the results from an identifier, or performing a laboratory assay.
- Survey data will be collected with GPS technology for internal pathway analyses. Survey maps will be developed from approved GIS mapping software.

B. The Cooperator will:

- Document locations by GPS coordinate.
- Mileage for personal vehicles for travel of KDA staff for conducting survey and collecting data.
- Equipment used in this survey will be maintained by cooperator upon completion of project.

1. By function, what work is to be accomplished?

- Survey for walnut twig beetle using canopy traps from April through August.
- Check traps every 7-10 days.
- If the walnut twig beetle is identified, visual surveys will occur from July through October looking for flagged limbs and entry/exit holes then samples will be taken from walnut trees in the area and sent to the GPDN.
- If samples are taken from walnut trees, the samples will be doubled bagged and taken to the GPDN lab.
- Fact sheets, webpage, resources, and pest reporting will be continually updated as new information becomes available.
- Data will be entered into the NAPIS database when pest identification is confirmed and/or becomes available.
- GPS coordinates will be included with surveys.

- Geographic assessment will occur from data gathered on locations of sawmills, types of wood processed and black walnut populations near these locations.
- Survey and identification of the Walnut Twig Beetle, vector of the *Geosmithia* fungus, if present.
- Survey and identification of the *Geosmithia* fungus, if present, if the walnut twig beetle is found.
- Screening of insects will be done by the state entomologist

2. What resources are required to perform the work?
- KDA staff, vehicle, fuel, GPS units, and computers.
- State entomologist to screen for suspect walnut twig beetles.
- Qualified identifier for walnut twig beetle
- GPDN lab for tree samples sent for fungus identification

3. What numbers and types of personnel will be needed and what will they be doing?
- KDA staff will be setting and checking traps.
- KDA staff will be doing visual surveys and sampling.
- Data acquired will be entered into NAPIS by State Survey Coordinator or KDA staff.

4. What equipment will be needed to perform the work($5,000 or more):

a. What equipment will be provided by the cooperator? N/A

b. What equipment will be provided by APHIS? N/A

c. What equipment will be purchased in whole or in part with APHIS funds? N/A

d. How will the equipment be used? N/A

e. What is the proposed method of disposition of the equipment upon termination of the agreement/project? N/A

5. Identify information technology equipment, e.g., computers, and their ancillary components.
- GPS units to document locations
- KDA computers with internet to enter data
- Digital cameras

6. What supplies will be needed to perform the work?
- GPS units
- Computers
- Digital cameras
- Canopy traps

- Long blade knives
- Alcohol
- Plastic bags
- Hand pruners

a. What supplies will be provided by the Cooperator?
- GPS units
- Computers
- Digital cameras
- Hand pruners
- Some canopy traps

b. What supplies will be provided by APHIS? N/A

c. What supplies will be purchased in whole or in part with APHIS funds?
- Canopy traps
- Alcohol
- Long blade knives
- Plastic bags

d. How will the supplies be used?
- Surveying for the walnut twig beetle
- Sampling for the fungus, *Geosmithia*

e. What is the proposed method of disposition of the supplies with a cumulative value over $5,000 upon termination of the agreement/project? N/A

7. What procurements will be made in support of the funded project and what is the method of procurement (e.g., lease, purchase)?
- Canopy traps
- Alcohol
- Long blade knives
- Plastic bags

Procurements will be made by purchase through the KDA fiscal department.

8. What are the travel needs for the project?
- Travel will be required to survey sites by use of a KDA or private vehicle.
- The KDA Plant Protection and Weed Control Plant Program Manager is the approving official.
- Costs are included in the financial plan.

a. Is there any local travel to daily work sites? Who is the approving official? What are the methods of payment? Indicate rates and total costs in the Financial Plan.
- Travel will occur to monitor traps every 7-10 days.
- Procurements will be made by purchase.

- This will be done through the KDA fiscal department.
- The KDA Plant Protection and Weed Control Plant Program Manager is the approving official.
- Costs are included in the financial plan.

b. What extended or overnight travel will be performed (number of trips, their purpose, and approximate dates). Who is the approving official? What is the method of payment? Indicate rates and total cost in the Financial Plan. N/A

9. Reports:

a. Submit all reports to the APHIS Authorized Department Officer's Designated Representative (ADODR). Reports include:

1. Narrative accomplishment reports in the frequency and time frame specified in the Notice of Award, Article 4.

2. Financial Status Reports, SF-269, in the frequency and time frame specified in the Notice of Award, Article 4.

10. Are there any other contributing parties who will be working on the project?

a. List Participating Agency/Institution: KDA, USDA/PPQ/APHIS, Kansas Forest Service

b. List all who will work on the project: KDA, Kansas Forest Service

c. Describe the nature of their effort: Trapping, tree sampling, site selection, funding, outreach and visual surveys

d. Contribution: Funding, tree sampling, site selection, outreach, setting traps, checking traps, removal of traps and visual surveys

C. APHIS Will:

- Provide any new information that becomes available on the walnut twig beetle and the *Geosmithia* fungus and review data.
- Provide funds to the Cooperator to cover costs outlined in the Financial Plan.
- Make arrangements for Taxonomic support in identification if necessary.

1. What equipment will be needed to perform the work? Include major items of equipment with a value of $5,000 or more.

- Vehicle
- GPS units
- Computers

a. Will Equipment be loaned or provided by APHIS? ☐Yes ☒No (If **Yes, please list:**

b. How will the equipment be used? Surveying for the walnut twig beetle

IV) GEOGRAPHIC LOCATION OF PROJECT

A. Is the project statewide or in specific counties, townships, and/or national or state parks?

The majority of trapping will take place in the eastern half of Kansas because the majority of sawmills are located there but the western part of the state will be trapped also. Emphasis will be placed on higher risk areas of entry into the state for the walnut twig beetle based on types of wood processed. Site selection will be based on walnut wood processing at sawmills and aggregation points.

B. What type of terrain (e.g., cropland, rangeland, woodland) will be involved in the project?

Many types of terrain will be involved.

Are there any unusual features which may have an impact on the project or activity such as rivers, lakes, wild life sanctuaries, commercial beekeepers etc? (list all that apply)

Areas might have disruption through human contact.

C. Identify the kind of data to be collected:

The kinds of data to be collected will include, but not limited to, observation number, observation date, data source, state/county, site code, pest code, pest status, GPS location and survey method.

E. Establish criteria to evaluate the results and successes of the project:

1. All data collected from the pest detection survey is entered into the state survey database and NAPIS database.
2. KDA, SPHD, SPRO, PSS, SSC meetings to keep updated on issues.
3. Maps of the pest detection survey activities are produced to aid in planning of future pest detection surveys, pathway risk analysis, and outreach activities.

F. Methodology used to determine if the results and benefits are achieved:

1. Review of the state survey database and NAPIS database to ensure that data from the pest detection activities have been entered.
2. KDA, SPHD, SPRO, PSS, SSC meetings to keep updated on issues.

V) DATA COLLECTION AND MAINTENANCE

1. All survey data from cooperative agreements involving pest surveys will be entered by the State Survey Coordinator or KDA staff into the state survey database and NAPIS database to include but not limited to observation number, observation date, data source, state/county, site code, pest code, pest status, and survey method.

2. Complete, accurate, and timely pest survey data will be entered into NAPIS using approved protocol. The data entry requirements are:
   - Enter new national, state, and county records into NAPIS database within 48 hours of confirmation of a pest or pathogen identification by a recognized identifier.
   - Non-time sensitive records, including negative data, must by entered into NAPIS within 2 weeks of confirmation.

- Negative data should be entered within 2 weeks of decommissioning a trap, obtaining the results from an identifier, or performing a laboratory assay.
- Survey data will be collected with GPS technology for internal pathway analyses. Survey maps will be developed from approved GIS mapping software.

VI) TAXONOMIC SUPPORT

A. Person or Institution that will screen targets (Name & Contact Information)

Glenn Salsbury, State Entomologist
Kansas Department of Agriculture
105 S. Dittmann
Frontenac, KS 66763

All insect specimens will be screened by Glenn Salsbury, the state entomologist. Any suspect positives for the walnut twig beetle will be sent to a qualified identifier, Dr. Don Bright at Colorado State University.

Walnut tree samples will be taken to the GPDN at KSU.

OR

B. ☒ Request for taxonomic support.

Identifier for walnut twig beetle

VII) SIGNATURES

ROAR	**Date**	**ADODR**	**Date**

Detailed Financial Plan

PROJECT: Walnut Twig Beetle: Vector of Thousand Cankers Disease of Walnut
COOPERATOR NAME: Kansas Department of Agriculture
AGREEMENT NUMBER: Farm Bill 10201
TIME PERIOD: March 2010 through December 2010

Financial Plan must match the SF-424A, Section B, Budget Categories

ITEM	APHIS FUNDS	COOPERATOR FUNDS (Show even if zero)	TOTAL
PERSONNEL:			
State Specialist 20 hours @ $35/hr	0	$700	$700
Subtotal	**$0**	**$700**	**$700**
FRINGE BENEFITS:			
22% of salary for permanent employees	0	$154	$154
Subtotal	**$0**	**$154**	**$154**
TRAVEL:			
KDA staff personal vehicle- 4,920 miles @ $0.50/mile **	$2,460	0	$2,460
Subtotal	**$2,460**	**0**	**$2,460**
EQUIPMENT:			
Subtotal	**0**	**0**	**0**
SUPPLIES:			
Canopy Traps - 10	$3,000	0	$3,000
Alcohol -150 pints	$240	0	$240
Plastic Bags	$150	0	$150
Long blade knives - 6	$300	0	$300
Subtotal	**$3,690**	**0**	**$3,690**
CONTRACTUAL:			
Subtotal	**0**	**0**	**0**
OTHER:			
Postage & shipping	$100	0	$100
Subtotal	**$100**	**0**	**$100**
TOTAL DIRECT COSTS	**$6,250**	**$854**	**$7,104**
INDIRECT COSTS (22.58% on Total Direct Personnel Cost of salary and fringe benefits)*	**$0**	**$193**	**$193**
TOTAL	**$6,250**	**$1,047**	**$7,297**
Cost Share Information	86%	14%	

*Kansas' Negotiated Cost Rate (Salary + Fringe Benefits x %=Indirect Cost)

** There is a shortage of state vehicles. We give the option of renting a vehicle or using personally owned vehicles. If renting we pay for the fuel and if a personal vehicle is used we pay mileage.